

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method for automatically correcting for depth errors in measurements taken from a drillstring while drilling a hydrocarbon wellbore comprising the steps of:

determining the depths of locations within the wellbore from the length, under surface conditions, of the drillstring extending to said locations;

receiving data representing measurements taken in a the hydrocarbon wellbore at a plurality of depths within the wellbore from at least one sensor located on a the drillstring while the drillstring is used to drill the wellbore;

automatically calculating corrections for errors in the ~~depth~~ depth depths of the locations determined from drillstring length under surface conditions;

associating the received data with corrected depths at which the data was measured; and

making use of the measured said data and the corrected depths associated therewith, having the depths corrected.

2. (original) A method according to claim 1 wherein the step of automatically calculating the corrections is based at least in part on the state of a drilling rig used to support the drillstring at the times when the measurements are taken.

3. (currently amended) A method according to claim 1 wherein further comprising the a step of measuring the length of portions of the drillstring prior to insertion into the wellbore.

4. (original) A method according to claim 3 wherein a time versus depth log is constructed using at least the measured length of portions of the drillstring.

5. (currently amended) A method according to claim 4 wherein the calculated corrections ~~is are~~ applied to ~~the~~ time versus depth log to generate a corrected time versus depth log, and wherein the corrected time versus depth log is combined with the data representing measurements taken in the wellbore such that a corrected depth can be attributed to said measurements.

6. (original) A method according to claim 1 wherein said step of calculating corrections is based in part on estimates of stretch of the length of the drillstring.

7. (original) A method according to claim 1 wherein said step of calculating corrections includes the step of computing the hookload.

8. (original) A method according to claim 7 wherein said step of calculating corrections includes the step of computing a calculated hookload and varying the friction factor or the weight on bit until the hookload and the calculated hookload match.

9. (new) A method for automatically correcting for depth errors in measurements taken from a drillstring while drilling a hydrocarbon wellbore comprising the steps of:

determining the depths of locations within the wellbore from the length, under surface conditions, of the drillstring extending to said locations;

receiving data representing measurements taken in ~~a~~ the hydrocarbon wellbore at a plurality of depths within the wellbore from at least one sensor located on ~~a~~ the drillstring while the drillstring is used to drill the wellbore;

supplying computing means with inputs of drillstring dimensions and weight under surface conditions, borehole trajectory, inclination and azimuth, a friction factor chosen dependent on state of rig operation, and a value of weight on bit;

using said inputs to compute a value of hookload;

comparing the computed value of hookload with a measured value;

adjusting at least one of the chosen friction factor and the weight on bit to approximate the calculated value of hookload to the measured value;

using said inputs as adjusted to compute stretch in the drillstring and hence compute corrections for errors in the depths of the locations determined from drillstring length under surface conditions;

associating the received data with corrected depths at which the data was measured; and

making use of said data with the corrected depths associated therewith.